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Arrhythmias

IMPACT OF MECHANICAL DYSSYNCHRONY ON LONG TERM OUTCOME IN PATIENTS WITH ISCHEMIC CARDIOMYOPATHY AND NON-LEFT BUNDLE BRANCH BLOCK AFTER CARDIAC RESYNCHRONIZATION THERAPY

ACC Moderated Poster Contributions
McCormick Place South, Hall A
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Session Title: Device Management in the Heart Failure Patient: CRT and Dyssynchrony
Abstract Category: 18. Arrhythmias: Devices
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Background: Although cardiac resynchronization therapy (CRT) is of great benefit to heart failure (HF) patients (pts) overall, recent trials have reported the greatest CRT benefits to pts with left bundle branch block (LBBB) and to pts with nonischemic cardiomyopathy. Our objective was to test the hypothesis that mechanical dyssynchrony may be particularly associated with outcome in CRT pts with ischemic cardiomyopathy and Non-LBBB morphology.

Methods: We studied 142 NYHA class III/IV ischemic cardiomyopathy pts for CRT (all EF <35% and QRS >120ms; 62 LBBB and 80 Non-LBBB). Baseline dyssynchrony was assessed by speckle tracking radial strain delay (anteroseptum to posterior wall >130ms). Long term outcome was pre-specified as freedom from death, heart transplant or left ventricular assist device (LVAD) over 4 years.

Results: Overall, radial dyssynchrony was observed at baseline in 80% of LBBB pts and 48% of Non-LBBB pts (281±90 ms in LBBB vs. 236±86 ms in Non-LBBB, p=0.02). There were 56 events: 48 death, 2 LVAD and 6 transplants. LBBB pts have more a favorable long term survival compared to Non-LBBB pts (p=0.0004). Importantly, Non-LBBB pts with baseline radial dyssynchrony had a more favorable event free survival when compared to those without baseline dyssynchrony (p=0.04).

Conclusions: Radial dyssynchrony is significantly associated with long term survival in CRT patients with ischemic cardiomyopathy and Non-LBBB QRS morphology, and has clinical implications.